

**ABSTRACT OF THE DISCLOSURE**

Disclosed is a discrete wavelet transform (DWT) unit for encoding and decoding still images based on the energy of each block. The DWT unit includes an energy calculating  
5 section for calculating energy of an input image in unit of a block having a predetermined number of pixels, an image decomposing section for performing three-level decomposition of the image of the block by decomposing a band at which a low frequency component is distributed three times, and a coefficient substituting section for substituting 0 (zero) for bands at which a high frequency component is distributed among the three-level decomposed bands.